

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/590,171  
Source: 1FWP  
Date Processed by STIC: 8/30/06

# ***ENTERED***



IFWP

## RAW SEQUENCE LISTING

DATE: 08/30/2006

PATENT APPLICATION: US/10/590,171

TIME: 09:06:53

Input Set : A:\P03371US0 Sequence listing).txt

Output Set: N:\CRF4\08302006\J590171.raw

3 <110> APPLICANT: F2G LIMITED  
 5 <120> TITLE OF INVENTION: 2031 OXIDOREDUCTASE  
 7 <130> FILE REFERENCE: HO-P03371US0  
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/590,171  
 C--> 10 <141> CURRENT FILING DATE: 2006-08-18  
 12 <150> PRIOR APPLICATION NUMBER: GB 0403746.1  
 13 <151> PRIOR FILING DATE: 2004-02-19  
 15 <150> PRIOR APPLICATION NUMBER: GB 0424080.0  
 16 <151> PRIOR FILING DATE: 2004-10-29  
 18 <160> NUMBER OF SEQ ID NOS: 101  
 20 <170> SOFTWARE: PatentIn version 3.2  
 22 <210> SEQ ID NO: 1  
 23 <211> LENGTH: 1908  
 24 <212> TYPE: DNA  
 25 <213> ORGANISM: Aspergillus fumigatus  
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 32 ctgtctccac tattcgcaa gattgtaaat caagcctgaa gaagcggagc aattcttgga 180  
 34 agtcgtatgt tctactgatt tctgtgcctg ggcgagacgg gtatataaat aaagatcacc 240  
 36 gcaccgagga gtttcttacc aacctatcaa taacctacca caatctccta caacaaaaat 300  
 38 gactgtcgcc gatatcgacg ttctctctgc cgagggcac cctacttca ctccggccca 360  
 40 gaacctctct gccggtacgg cagctaacc ccagaccaat ggccagaaga tcccaagct 420  
 42 cttcacgccc tataccatcc gtggcgctac cttccagaac cgccttggtg taagtccgtt 480  
 44 tgccttggtc catatcgacg aaagctaata ccccgtagc tcgccccct ctgccaatac 540  
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 50 cctcaggatg tcggtctgtg gaaggactcc cagatcgccc cgatgcgccc ggtcatcgac 720  
 52 ttctgtcaca gccagggcca gaagatcggc gtgcagcttg cccatgccgg ccggaaagcc 780  
 54 accaccgttg cgccttgat ctcttctcg gccatcgca cggagaaggc cggcggtatg 840  
 56 ccggaccgcg tcaaagggcc cggcgatatc cctttgagg agcccttcgc caagcccaag 900  
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 60 gccatcgccc ccggtgcgga ctttgtcgag attcacaatg cgcattgata cctgctgtcg 1020  
 62 tcattcctct cgcggccgc caacaaccgc acggaccagt acggcgggtc gttcgagaac 1080  
 64 cgcattcgcc tgtctctcga gattgcgcag ttgactcggg acgcccgcgg cctcatgtg 1140  
 66 cccgttttcc tgcgcatttc ggccctcgac tgggtgcgag agaccctgcc ggagcagagc 1200  
 68 tggaagtcgg aggataccgt gcggttcgag caggagctgg tcaagcaggc cgcggtgat 1260  
 70 ctgatcgata tcagcagcgg tgggtgttct gcgcagcaga agatcaagtc cggccctgcc 1320  
 72 ttccagggtg cttttgccgt ggccgtgaag aaggccgtcg gcgacaagct gctggttgcc 1380  
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 76 gacgttgccg tgggtggccg tgggttcag aaggatcccg gtctggcctg gacgtttgct 1500  
 78 cagcacctcg gcgtcgaaat ctccatggcc aaccagatcc gctggggctt caccggcgt 1560  
 80 ggaggcaccc cgtacattga tccttcgggt tacaagcagt ctattttcga tgtatagagt 1620

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84 cgtctcctgc gtatgttcaa ggtattcaca gtagctgctg cctcttaagt ttctccgtca 1740
86 ttggttctat tctactccaa tcgcaacgca tggcgaccac ggatcgagtc gaatttctcc 1800
88 gtcgttcgta tctgatcaat ataaaaagcg gggaaatggct tgaccccgcg cagaatgtcg 1860
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93 <210> SEQ ID NO: 2
94 <211> LENGTH: 1445
95 <212> TYPE: DNA
96 <213> ORGANISM: Aspergillus fumigatus
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101 cgaggagttt cttaccaacc catcaataac catccacaat ctctacaac aaaaatgact 120
103 gtcgccgata tcgacgttcc tccctgccgag ggcacccctt acttcaactcc ggcccagaac 180
105 cctcctgccc gtacggcagc taacccccag accaatggcc agaagatccc caagctcttc 240
107 acgcccctga ccatccgtgg cgtcaccttc cagaaccgcc ttggtctcgc gcccctctgc 300
109 caatactccg ccagggacgg ccacatgacc gactaccaca tcgcccactc ggggtgggac 360
111 gcccacgcg gaccggcct gatgctgatt gaggcgaccg ccgtccagcc cgaaggccgc 420
113 atcacccctc aggatgtcgg tctgtggaag gactcccaga tcgccccgat gcgcggggtc 480
115 atcgacttcg tgcacagcca gggccagaag atcggcgtgc agcttgccca tgccggccgg 540
117 aaagccacca ccgttgccgc ctggatctca ttctcggcca tcgcgacgga gaaggtcggc 600
119 ggatggccgg acccgctca aagggccggg cgatatcccc ttgcgaggc ctttcgcca 660
121 gcccaggcc atgacgtgg atgagatcga gcagttcaag aaggactggg tggcgccac 720
123 gaagcgcgcc atcgccgcgg gtgcggactt tgcgagatt cacaatgcgc atggatacct 780
125 gctgtcgtca ttctctcgc cggccgcca caaccgcacg gaccagtacg gcgggtcgtt 840
127 cgagaaccgc atccggctgt ctctcgagat tgcgcagttg actcgggacg ccgtcggccc 900
129 tcatgtgccc gttttcctgc gcatttcggc ctcgactggg tgcgaggaga ccctgccgga 960
131 gcagagctgg aagtcggagg ataccgtgcg gttcgcgcag gagctgggtca agcagggcgc 1020
133 cgttgatctg atcgatatca gcagcgggtg ttgtctcgcg cagcagaaga tcaagtccgg 1080
135 ccctgccttc caggtgcctt ttgcccgtgg cgtgaagaag gccgtcggcg acaagctgct 1140
137 ggttgccgcc gtgggtgcca tcaccaacgg caagcaggcg aatcagattc tagaggagca 1200
139 ggatctcgac gttgcgtgg ttggccgtgg gttccagaag gatcccggtc tggcctggac 1260
141 gtttgctcag cactcggcg tcgaaatctc catggccaac cagatccgct ggggcttcac 1320
143 ccggcgtgga ggcacccgt acattgatcc ttcggtgtac aagcagtcta tttcgtatgt 1380
145 atagagtata gatagagttg aagatgatac ctcatagacg atcaatggac ccttgcatat 1440
147 ttttt
150 <210> SEQ ID NO: 3
151 <211> LENGTH: 422
152 <212> TYPE: PRT
153 <213> ORGANISM: Aspergillus fumigatus
155 <400> SEQUENCE: 3
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158 1 5 10 15
161 Phe Thr Pro Ala Gln Asn Pro Pro Ala Gly Thr Ala Ala Asn Pro Gln
162 20 25 30
165 Thr Asn Gly Gln Lys Ile Pro Lys Leu Phe Thr Pro Leu Thr Ile Arg
166 35 40 45
169 Gly Val Thr Phe Gln Asn Arg Leu Gly Leu Ala Pro Leu Cys Gln Tyr
170 50 55 60
173 Ser Ala Gln Asp Gly His Met Thr Asp Tyr His Ile Ala His Leu Gly

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174 65          70          75          80
177 Gly Ile Ala Gln Arg Gly Pro Gly Leu Met Leu Ile Glu Ala Thr Ala
178          85          90          95
181 Val Gln Pro Glu Gly Arg Ile Thr Pro Gln Asp Val Gly Leu Trp Lys
182          100          105          110
185 Asp Ser Gln Ile Ala Pro Met Arg Arg Val Ile Asp Phe Val His Ser
186          115          120          125
189 Gln Gly Gln Lys Ile Gly Val Gln Leu Ala His Ala Gly Arg Lys Ala
190          130          135          140
193 Thr Thr Val Ala Pro Trp Ile Ser Phe Ser Ala Ile Ala Thr Glu Lys
194 145          150          155          160
197 Val Gly Gly Trp Pro Asp Arg Val Lys Gly Pro Gly Asp Ile Pro Phe
198          165          170          175
201 Ala Glu Pro Phe Ala Lys Pro Lys Ala Met Thr Leu Asp Glu Ile Glu
202          180          185          190
205 Gln Phe Lys Lys Asp Trp Val Ala Thr Lys Arg Ala Ile Ala Ala
206          195          200          205
209 Gly Ala Asp Phe Val Glu Ile His Asn Ala His Gly Tyr Leu Leu Ser
210          210          215          220
213 Ser Phe Leu Ser Pro Ala Ala Asn Asn Arg Thr Asp Gln Tyr Gly Gly
214 225          230          235          240
217 Ser Phe Glu Asn Arg Ile Arg Leu Ser Leu Glu Ile Ala Gln Leu Thr
218          245          250          255
221 Arg Asp Ala Val Gly Pro His Val Pro Val Phe Leu Arg Ile Ser Ala
222          260          265          270
225 Ser Asp Trp Cys Glu Glu Thr Leu Pro Glu Gln Ser Trp Lys Ser Glu
226          275          280          285
229 Asp Thr Val Arg Phe Ala Gln Glu Leu Val Lys Gln Gly Ala Val Asp
230          290          295          300
233 Leu Ile Asp Ile Ser Ser Gly Gly Val Leu Ala Gln Gln Lys Ile Lys
234 305          310          315          320
237 Ser Gly Pro Ala Phe Gln Val Pro Phe Ala Val Ala Val Lys Lys Ala
238          325          330          335
241 Val Gly Asp Lys Leu Leu Val Ala Ala Val Gly Ala Ile Thr Asn Gly
242          340          345          350
245 Lys Gln Ala Asn Gln Ile Leu Glu Glu Gln Asp Ile Asp Val Ala Leu
246          355          360          365
249 Val Gly Arg Gly Phe Gln Lys Asp Pro Gly Leu Ala Trp Thr Phe Ala
250          370          375          380
253 Gln His Leu Gly Val Glu Ile Ser Met Ala Asn Gln Ile Arg Trp Gly
254 385          390          395          400
257 Phe Thr Arg Arg Gly Gly Thr Pro Tyr Ile Asp Pro Ser Val Tyr Lys
258          405          410          415
261 Gln Ser Ile Phe Asp Val
262          420
265 <210> SEQ ID NO: 4
266 <211> LENGTH: 1352
267 <212> TYPE: DNA
268 <213> ORGANISM: Aspergillus fumigatus

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270 &lt;400&gt; SEQUENCE: 4

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273 actccggcgc aagagccgcc tgcctggcacc gctgctaata ctcaagtctga tggatcgga      120
275 cctcccaagc tcttcgggcc gctttcggtg cggggtctga cctttcaca tgcattggc      180
277 gtgagtgagc tccaggcaat tatgctatcc atcctatgcg agcccttgca ttggaacagc      240
279 cgcttacagg gaatgataat gagtagctat cgccactctg ccaatactca gccgacgatg      300
281 gacacatgac tccctggcat atggcacatc ttggagggat tggccagcga gggccaggat      360
283 tcttgatggc cgaggcaaca gcagtcgaac cggaaggcag gatcaccgcg caggacctgg      420
285 gactatggaa agactcgagc attgagccat tgagccgcgt gatcgagttt gtccacagtc      480
287 agaaccagct tatcggcggtg cagatcgcac acgcaggctc caaggccagc accgtcgccg      540
289 catggctctc ggccaacgat accgcctccg agaagatggg cggtcgcca ggccgcgtca      600
291 aaggcccgac aaatgtgcc ttcaccgtta agaaccctgt gccgaaggag atgaccaagc      660
293 aggatatcga ggatctgaag accgcctggg tggccgctgt caaacgggct gtttaaggccg      720
295 gagccgactt tatcgagatc cacaatgcgc atggctatct tctgatgtcg ttcctctccc      780
297 ctgcggtcaa cagcagaaca gacgagtacg gaggcagttt tgagaatcgc atccggctca      840
299 gtctggagat cgccaagctc acccgcgaaa atgtgcccga ggatatgcct gtcttccctgc      900
301 gggctctccg caccgattgg ctggaggagg tgcagccgaa caagccagc tggcgaggcg      960
303 tggacactgt ccgatttgcg aagatcctgg cagaaacggg ttacgttgac gtgcttgacg      1020
305 tgagcagtg ggcactcat tgcgagcagc atatccacgc gaagccaggc ttccaggcac      1080
307 cctttgctat tgccgtcaag aacgcgcgtc gggacaaact cgcagtggca tcagtgggta      1140
309 tgattgccag cgcgcatttg gccaatctct tgttgagaa ggacggactg gacctgtgc      1200
311 tggttggacg tggcttccag aagaaccgcg ggctgggtgt ggcgtgggac gacgagctga      1260
313 atgtagagat ctccatggct aatcagatcc gatgggggtt ctgcggcgcc ggtgctggct      1320
315 cttacctcag gaagaaactc gagaagatat aa                                     1352

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318 &lt;210&gt; SEQ ID NO: 5

319 &lt;211&gt; LENGTH: 1266

320 &lt;212&gt; TYPE: DNA

321 <213> ORGANISM: *Aspergillus fumigatus*

323 &lt;400&gt; SEQUENCE: 5

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326 actccggcgc aagagccgcc tgcctggcacc gctgctaata ctcaagtctga tggatcgga      120
328 cctcccaagc tcttcgggcc gctttcggtg cggggtctga cctttcaca tgcattggc      180
330 ctatcgccac tctgccaata ctcagccgac gatggacaca tgactcctg gcatattggc      240
332 catcttgagg ggattgccc gcgaggccca ggattcttga tggtcgaggc aacagcagtc      300
334 gaaccggaag gcaggatcac cccgcaggac ctgggactat ggaaagactc gcagattgag      360
336 ccattgagcc gcgtgatcga gtttgctccac agtcagaacc agcttatcgg cgtgcagatc      420
338 gcacacgcag gtgcgaaggc cagcaccgtc gcgccatggc tctcggccaa cgataccgcc      480
340 tccgagaaga tgggcggtct gccaggccgc gtcaaaggcc cgacaaatgt gcccttcacc      540
342 gtttaagaacc ctgtgccgaa ggagatgacc aagcaggata tcgaggatct gaagaccgcc      600
344 tgggtggccg ctgtcaaacg ggctgttaag gccggagccg actttatcga gatccacaat      660
346 gcgcattggc atcttctgat gtcgttctc tccctgcgg tcaacacgag aacagacgag      720
348 tacggaggca gttttgagaa tgcctccgg ctcaagtctg agatcgccaa gtcacccgc      780
350 gaaaatgtgc ccaaggatat gcctgtcttc ctgcgggtct ccgccaccga ttggctggag      840
352 gaggtgcagc cgaacaagcc cagctggcga ggctgggaca ctgtccgatt tgcgaagatc      900
354 ctggcagaaa cgggttacgt tgacgtgctt gacgtgagca gtggcgccac tcattcggag      960
356 cagcatatcc acgcgaagcc aggtctccag gcacctttg ctattgccgt caagaacgcc      1020
358 gtccggggaca aactcgcagt ggcctcagtg ggtatgattg ccagcgcgca tttggccaat      1080
360 tcttgttgga agaaggacgg actggacctt gtgctggttg gacgtggctt ccagaagaac      1140
362 ccggggctgg tgtgggcgtg ggccgacgag ctgaatgtag agatctccat ggctaatac      1200

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366 atataa 1266
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370 <211> LENGTH: 421
371 <212> TYPE: PRT
372 <213> ORGANISM: Aspergillus fumigatus
374 <400> SEQUENCE: 6
376 Met Ser Gln Pro Val Val Pro Asp Ile Glu Asn Lys Pro Ala Pro Gly
377 1 5 10 15
380 Ile Ser Tyr Phe Thr Pro Ala Gln Glu Pro Pro Ala Gly Thr Ala Ala
381 20 25 30
384 Asn Pro Gln Ser Asp Gly Ser Ala Pro Pro Lys Leu Phe Arg Pro Leu
385 35 40 45
388 Ser Val Arg Gly Leu Thr Phe His Asn Arg Ile Gly Leu Ser Pro Leu
389 50 55 60
392 Cys Gln Tyr Ser Ala Asp Asp Gly His Met Thr Pro Trp His Met Ala
393 65 70 75 80
396 His Leu Gly Gly Ile Ala Gln Arg Gly Pro Gly Phe Leu Met Val Glu
397 85 90 95
400 Ala Thr Ala Val Glu Pro Glu Gly Arg Ile Thr Pro Gln Asp Leu Gly
401 100 105 110
404 Leu Trp Lys Asp Ser Gln Ile Glu Pro Leu Ser Arg Val Ile Glu Phe
405 115 120 125
408 Val His Ser Gln Asn Gln Leu Ile Gly Val Gln Ile Ala His Ala Gly
409 130 135 140
412 Arg Lys Ala Ser Thr Val Ala Pro Trp Leu Ser Ala Asn Asp Thr Ala
413 145 150 155 160
416 Ser Glu Lys Met Gly Gly Trp Pro Gly Arg Val Lys Gly Pro Thr Asn
417 165 170 175
420 Val Pro Phe Thr Val Lys Asn Pro Val Pro Lys Glu Met Thr Lys Gln
421 180 185 190
424 Asp Ile Glu Asp Leu Lys Thr Ala Trp Val Ala Ala Val Lys Arg Ala
425 195 200 205
428 Val Lys Ala Gly Ala Asp Phe Ile Glu Ile His Asn Ala His Gly Tyr
429 210 215 220
432 Leu Leu Met Ser Phe Leu Ser Pro Ala Val Asn Thr Arg Thr Asp Glu
433 225 230 235 240
436 Tyr Gly Gly Ser Phe Glu Asn Arg Ile Arg Leu Ser Leu Glu Ile Ala
437 245 250 255
440 Lys Leu Thr Arg Glu Asn Val Pro Lys Asp Met Pro Val Phe Leu Arg
441 260 265 270
444 Val Ser Ala Thr Asp Trp Leu Glu Glu Val Gln Pro Asn Lys Pro Ser
445 275 280 285
448 Trp Arg Gly Val Asp Thr Val Arg Phe Ala Lys Ile Leu Ala Glu Thr
449 290 295 300
452 Gly Tyr Val Asp Val Leu Asp Val Ser Ser Gly Gly Thr His Ser Glu
453 305 310 315 320
456 Gln His Ile His Ala Lys Pro Gly Phe Gln Ala Pro Phe Ala Ile Ala
457 325 330 335

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**RAW SEQUENCE LISTING ERROR SUMMARY**

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Input Set : A:\P03371US0 Sequence listing).txt

Output Set: N:\CRF4\08302006\J590171.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:27; Xaa Pos. 187

Seq#:38; Xaa Pos. 22,37,196,200,216

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/590,171

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L:9 M:270 C: Current Application Number differs, Replaced Current Application Number

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:2037 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:176

L:2476 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:16

M:341 Repeated in SeqNo=38